INTRODUCTION

Your Expression mounting and laminating press is a precision tool that will provide years of service when maintained properly.

This guide will help you perform routine user operating and adjustments, determine when and how to conduct routine user operating adjustments, determine when and how to conduct routine maintenance, and perform simple repairs.

As the most recent and current models (500TX, 210MX & Masterpieces 550 &250) have some electrical differences in temperature control, you may wish to contact Expression Technical Service for assistance.

Please use proper care when performing self-repairs. Always make sure machine is unplugged from power source, prior to any repair or maintenance.

For additional repair/maintenance tips or instructions not included in this guide, please contact our Expression Technical Service Department at 888-240-6021. A member of our team will be happy to assist. Hours of availability are Monday Through Friday 8:00 – 5:00 EST.

MODEL IDENTIFICATION

Over the many years that Expression (formerly Seal), has manufactured quality dry mounting/laminating presses, minor changes have been incorporated into our products. These changes have helped keep the cost of our units down and reliability up. As each change took place, presses were identified as a new generation.

Mechanical Expression/Seal press models reviewed in this guide are:

Generation Three Presses:
- 360M
- 210M
- 160M
- 110 and 110S

These presses are identified by the white housings, black arms and cantilevers, and toggle plate pin and clip fastenings. They have a temperature range of 50 F. to 350 F. (10-177 C.)

Generation Four Presses:
- 500T
- 210M
- 160M
- DS100
- 110S

While similar in appearance to the presses listed above, these presses list the model identification on the front control panel, and have nut and bolt toggle plate fastenings (not pins and clips). With the exception of the DS100, they had a temperature range of 150 F. to 350 F. (66 – 177 C.) The DS100, also known at that time as the DrugSeal 100, had a temperature range of 50 F. to 400 F. (10 – 204 C.)

Generation Five Presses:
- 500TX
- 210MX
- 210M
- 160M
- DS100
- 110S

In general, these machines are still the same as generation four, with the addition of the 210MX, and the 500TX, which took the place of the 500T. The thermostats of these two units were exchanged with temperature control boards, output modules, and sensor assemblies. There was no electronic read out of the temperature, but you had a closer degree of accuracy, generally within 3 degrees.

Current models: Masterpiece 550
Masterpiece 250
Masterpiece 210M
Masterpiece 160M
Masterpiece 110S
Expression High Heat Drug Press

Once again, the machines have remained basically the same. The 500TX and 210MX were discontinued and replaced by the Masterpiece 550 and 250. Expression has taken these units one step further by adding a digital thermostat control board, giving you visual time and temperature readings. The unit comes with 6 pre-programmed programs and the ability for you to create your own programs using programs 7 through 10. Temperature range for these new units is 100 F. to 300 F. (38 to 150 C.) An added feature for the Masterpiece 550 is in it's wider opening, making it easier for placing your applications in or taking out of the press.

The Expression High Heat Drug Press is still our recommended choice for your drug packaging needs with a temperature range of 50 F. to 400 F. (10 – 204 C.)

THEORY OF OPERATION

Successful use of Expression presses and materials is based on the control of four basic elements: Temperature, Pressure, Time and Humidity. Expression Mechanical presses are designed to regulate heat and pressure within the proper range.

Pressure is controlled in two ways: It is kept uniform by the sponge pad in the press base, and adequate by the pressure adjustment knobs (see pressure adjustment instructions). With proper adjustment, the presses can accept materials up to 1" thick, but must be adjusted for each significant change in material thickness.

In all but the Masterpiece 550 and 250, the heat is controlled by the temperature control knob, located on the control panel. As this knob is turned, it bends the bi-metallic thermostat toward and away from its closed position. When the bi-metallic thermostat cools, it closes and provides current to the heater and heater indicator light. In some cases, a triac is used, (older model 360, 500T and 210). Here the thermostat closes and trips the triac which in turn provides current to the heat indicator light and heater. The heater is simply a wire coil sandwiched between two flexible thermally-conductive plates. It is similar in appearance and function to an electric blanket. As the platen (which is against the heater) heats, the thermostat (which is also fastened to the platen) monitors its temperature. When the platen temperature reaches the temperature, which is dictated by the knob on the control panel, the heater is shut off and remains off until the bi-metallic thermostat cools enough to close and reactivate the heating cycle.

As the Masterpiece 550 and 250 use the touch control digital display, please consult your owner's manual for user-friendly operating instructions. You may also contact our Technical Service Department with any questions or concerns. (888-240-6021)

REQUIRED PERIODIC MAINTENANCE

Expression presses are designed to require a minimal amount of maintenance. By adhering to the schedule below, consistent performance and minimal down time are assured. This schedule assumes daily use of 2 – 3 hours. In very heavy or constant usage applications, more frequent maintenance may be required.

	What to Check	How Often
1.	Platen Cleaning	As Needed
2.	Pressure Adjustment	As Needed
3.	Spongepad – uniformity	3 Years
4.	Lubrication – stress joints	6 months
5.	Look for loose screws, worn pivot points or burned out lights. Check power cord for cracks.	1 Year
6.	Thermostat contacts	1 Year

Platen Cleaning: Use a Expression platen cleaner kit whenever possible. Clean platen and wipe clean. After and between cleanings, periodic applications of silicone spray will facilitate easier removal of adhesive residue. For very dirty platens, commercial solvents such as Expression Unstik, may be required. Never use abrasives on a platen. Always unplug the unit before cleaning with flammable solvents. Platens with a dark gray (Teflon) color can be roughly cleaned by inserting kraft paper into the heated press, closing and locking the press, and turning the press off to allow it to cool. After cooling, peel the kraft paper away, removing most of the residual adhesive from the platen.

Pressure Adjustment: See "Pressure Adjustment" under Repair Procedures.

Sponge Pad: Feel the sponge pad for uniform resiliency. Pads with soft or dead spots, or pads that lack a springy feel should be replaced.

Lubrication: A single drop of light machine oil or dry lubricant on all stress points will reduce wear. Wipe off excess.

Thermostat Contacts: The thermostat is a delicate unit and should not be disturbed if the press temperature corresponds to the setting on the control panel and temperature does not wander by more than 5 degrees F., + or -. Access to the contacts is gained by unscrewing and removing the control panel. The contacts can be cleaned by sliding a clean piece of paper between them. Grade 400 or finer emery cloth or sandpaper may be used. Do not remove too much material from the contacts – they are made of a very soft metal and once scraped, will need to be changed often.

TECHNICAL SERVICE

Your Expression unit should provide many years of trouble free operation if properly maintained. If your unit fails to perform satisfactorily, refer to the following Troubleshooting Chart or consult Expression Technical Service (888-240-6021). Before contacting Expression, please record:

- The nature of the problem (and all the variables involved).
- Your press model and serial numbers.
- If under warranty, note the date of purchase, date of warranty receipt and dealer or distributors name, address and phone number.

Expression presses are simple mechanical/electrical devices that are easily repaired. The following troubleshooting chart is a helpful guide to self-repair.

First, consult the troubleshooting chart to clarify the problem, then follow the appropriate step-by-step repair procedures referred to in the chart. Always read repair procedures completely before beginning services. Always unplug the press before starting repair work. For press heating problems, a thermometer (or temperature strips) and an ohmmeter are helpful diagnostic tools.

TROUBLESHOOTING

SYMPTOMS	REPAIR PROCEDURE
Press temperature wanders and does not Hold the settings on the temperature knob.	See "Thermostat Replacement"
Press temperature holds steady but does not Correspond to setting on the temperature knob.	See "Thermostat Calibration"
Press heats to maximum temperature Regardless of temperature setting.	1. See Triac Removal and Bypass (Where Applicable) 2. See Thermostat Replacement 3. Check for loose/shorting wires.
Press does not heat at all, or will not reach Upper temperature range, but yellow heater Light illuminates.	1. Check for charred wires, switches thermostat contacts. 2. See Heater Element Replacement
Press does not heat at all and yellow heater Light does not illuminate, but red "On/Off" Light does illuminate.	1. See Triac Removal and Bypass (Where Applicable) 2. See Thermostat Replacement
Press does not heat and red "On/Off" light Does not illuminate.	1. Is the unit plugged in? 2. Check power source circuit Breaker. 3.See "On/Off" switch replacement.
Press heats but yellow heater light does Not illuminate.	See Indicator light replacements
Platen heats unevenly and heater light goes On and off in normal cycle time when press Is closed.	1. See "Pressure Adjustments" 2. See Heater Element Replacement
Platen heats unevenly and heater light stays On (does not cycle) when press is closed.	1. Check for charred wires, thermos-Tat contacts, on/off switch. 2. See "Heater Replacement"
Bobble-like formation in same location on All finished works.	Replace Spongepad.

TROUBLESHOOTING FOR MASTERPIECE 550 AND 250

SYMPTOM	PROBABLE CAUSE	ACTION
No heat, all lights off	Not plugged in Power supply off Power switch off Power switch inoperative Power cord inoperative	Check power cord Check circuit breaker in building Check switch Replace switch Replace cord
No heat, power light on, heater indicator off	Heater inoperative	Call Technical Service/Replace Heater
No heat, power light on, heater indicator blinking	Heater inoperative	Call Technical Service/Replace Heater
Pits in work	Cleanliness	Clean platen
Bumps under work	Cleanliness	Remove dust, debris from between materials
Bubbles, non-adhesion	Improper adhesive Inadequate time Low pressure Low/uneven pressure Low/high temperature High moisture content Substrate quality	Check specifications Reprocess longer See PressureAdjustment Procedure Check sponge pad See PressureAdjustment Procedure Check specifications Pre-dry materials or reprocess longer Check specifications
Lines from edge of press	High pressure	See Pressure Adjustment Procedure and/or use